

WHAT IS TO BE CLAIMED:

1. A sample assaying apparatus for performing a reaction assay for a sample by using a microplate having a plurality of reaction vessels thereon in which the sample and a reagent are subjected to reaction, the apparatus comprising:

a reagent/sample tray for mounting a plurality of containers individually containing the reagent or the sample;

a base for supporting the reagent/sample tray such that the tray is capable of moving reciprocally;

a tray conveying mechanism for conveying the reagent/sample tray reciprocally;

a dispensing mechanism for dispensing the sample or the reagent into each reaction vessel of the microplate; and

a temperature maintaining mechanism for maintaining the temperature of the microplate at a predetermined temperature,

wherein the dispensing mechanism has a dispenser for dispensing the sample or the reagent and a conveyer for conveying the dispenser in a direction perpendicular to the reciprocating direction of the reagent/sample tray; a supporter for the microplate is provided at the end of the direction perpendicular to the reciprocating direction of the reagent/sample tray; and the temperature maintaining mechanism is arranged adjacent to the supporter-provided side of the reciprocating region of the reagent/sample tray.

2. A sample assaying apparatus according to claim 1, wherein the conveyer of the dispensing mechanism conveys the

dispenser in a direction perpendicular to the reciprocating direction of the reagent/sample tray.

3. A sample assaying apparatus according to claims 1, further comprising a washing mechanism for washing inside each of the reaction vessels of the microplate, wherein the washing mechanism is arranged adjacent to the supporter-
5 provided side of the reciprocating region of the reagent/sample tray.

4. A sample assaying apparatus according to claim 3, further comprising a photometer for determining the reaction within each of the reaction vessels of the microplate, wherein the photometer is arranged adjacent to the supporter-
5 provided side of the reciprocating region of the reagent/sample tray.

5. A sample assaying apparatus according to claims 1, wherein the supporter of the microplate is protruding from the end of the reagent/sample tray in the direction perpendicular to the reciprocating direction of the
5 reagent/sample tray; the temperature maintaining mechanism has a temperature adjuster and a housing for accommodating the temperature adjuster and is arranged to overlap the translation region of the microplate and the supporter; and the housing is provided with a notch where it overlaps with
10 the translation region of the microplate and the supporter.

6. A sample assaying apparatus according to claim 5, wherein the supporter of the microplate is formed as a frame so as to hold the microplate with the top and back surfaces thereof being exposed; the temperature adjuster of the

- 5 temperature maintaining mechanism faces the back surface of the microplate held by the supporter; and the housing has a lid for covering the top surface of the microplate.

7. A sample assaying apparatus according to claims 1, further comprising a vibrating mechanism on the reagent/sample tray for shaking the microplate via the supporter.

8. A sample assaying apparatus according to claim 7, wherein the supporter is provided with regions for arranging the microplate for reacting the sample and the reagent and for arranging a microplate for performing dilution.